# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-06/368b/CEMENT/2017-18 Date: 23.06.2017

## TEST REPORT ON CEMENT

| | | |
|---|---|---|
| *** Customer** | : | **Assistant Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore. |
| *** Agency** | : | **Technical Manager (West),** KRIDL, Bangalore. |
| *** Name of Work** | : | Improvements to roads and drains at 4th cross NMH layout in Bagalagunte in ward no.14, T. Dasarahalli sub division, BBMP, Bangalore. |
| *** Reference** | : | BBMP/EE/DD/WO/123/2017-18 Dated: 21.06.2017 |
| *** Sample ID** | : | Cement |
| **Sample Received on** | : | 21.06.2017 |
| **Period of Testing** | : | 21.06.2017 to 23.06.2017 |

The results of the tests conducted on the cement sample are as follows:

| Sl. No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 8112-2013 |
|---|---|---|---|---|
| 1 | Standard Consistency | IS-4031 (Part -4) 1988 (RA-2014) | 27.00 % | - |
| 2 | a) Initial Setting Time | IS-4031 (Part -5) 1988 (RA-2014) | 160 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part -5) 1988 (RA-2014) | 475 Minutes | Not More than 600 Minutes |
| 3 | Soundness by Le Chartlier Method | IS-4031 (Part-3) 1988 (RA-2014) | 1 mm | Not more than 10mm |

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants & Engg. Bangalore

**Note:**

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⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

*********

VIDYARANI P.K.
Technical Manager


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T-2377


Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-06/368b/SAND-Gradation/2017-18 23.06.2017

## TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

| | |
|---|---|
| * Customer | : **Assistant Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore. |
| * Agency | : **Technical Manager (West),** KRIDL, Bangalore. |
| * Name of Work | : Improvements to roads and drains at 4th cross NMH layout in Bagalagunte in ward no.14, T. Dasarahalli sub division, BBMP, Bangalore. |
| * Reference | : BBMP/EE/DD/WO/123/2017-18 Dated: 21.06.2017 |
| * Sample ID | : Fine Aggregates |
| Technical Reference | : IS : 2386 (Part 1) - 1963 (RA-2011) |
| Sample Received On | : 21.06.2017 |
| Date of Testing | : 23.06.2017 |

Total Wt. of Aggregates in gms = **1000**

| IS Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS 383-1970 (RA- 2011) | | | |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone-III | Zone-IV |
| 10 | 100 | 100 | 100 | 100 | 100 |
| 4.75 | 95.00 | 90-100 | 90-100 | 90-100 | 95-100 |
| 2.36 | 77.80 | 60-95 | 75-100 | 85-100 | 95-100 |
| 1.18 | 58.50 | 30-70 | 55-90 | 75-100 | 90-100 |
| 600 Micron | 28.50 | 15-34 | 35-59 | 60-79 | 80-100 |
| 300 Micron | 14.30 | 5-20 | 8-30 | 12-40 | 15-50 |
| 150 Micron | 6.80 | 0-10 | 0-10 | 0-10 | 0-15 |

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**Remarks :** This sample is under Zone-I specific limits.

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Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005


Job No.: CTCE/BBMP/KRIDL/W.No.14/Steel/2017-18

23.06.2017

## TEST REPORT ON REINFORCEMENT STEEL

| | | |
|---|---|---|
| * Customer | : | **Assistant Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore. |
| * Agency | : | **Technical Manager (West),** KRIDL, Bangalore. |
| * Name of work | : | Improvements to roads and drains at 4th cross NMH layout in Bagalagunte in ward no.14, T. Dasarahalli sub division, BBMP, Bangalore. |
| * Reference | : | BBMP/EE/DD/WO/123/2017-18 Dated: 21.06.2017 |
| * Samples ID | : | 10 mm Bar |
| Technical Reference | : | IS: 1786-2008 (RA-2013) |
| Date of Testing | : | 23.06.2017 |

| Sl No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm2 | Tensile strength (Ultimate stress) N/mm2 | Elongation percent gauge length | | |
| 1 | 10 | 0.62 | 516 | 557 | 13.10 | O.K | O.K |

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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-06/368b/Cube/2017-18 28.07.2017

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

| | | |
|---|---|---|
| * Customer | : | **Assistant Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore. |
| * Agency | : | **Technical Manager (West),** KRIDL, Bangalore. |
| * Name of the work | : | Improvements to roads and drains at 4th cross NMH layout in Bagalagunte in ward no.14, T. Dasarahalli sub division, BBMP, Bangalore. |
| * Reference | : | BBMP/EE/DD/WO/123/2017-18 Dated: 21.06.2017 |
| * Sample ID | : | RCC Drain Concrete |
| Technical Reference | : | IS: 516-1959 (RA-2013) |
| Size of cubes | : | 150mmx150mmx150mm |
| Cross Sectional Area | : | 22500 $mm^2$ |
| * Grade of Concrete | : | $M_{20}$ |
| Compressive Strength as on | : | $28^{th}$ day |
| Sample Received on | : | 28.07.2017 |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 30.06.2017 | 28.07.2017 | 8.246 | 535.6 | 23.81 |
| 2 | 30.06.2017 | 28.07.2017 | 8.387 | 494.5 | 21.98 |
| 3 | 30.06.2017 | 28.07.2017 | 8.596 | 528.6 | 23.49 |

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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-06/368b/Precast Slab/2017-18 10.07.2017

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CORE

| | | |
|---|---|---|
| * Customer | : | **Assistant Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore. |
| * Agency | : | **Technical Manager (West),** KRIDL, Bangalore. |
| * Name of work | : | Improvements to roads and drains at 4th cross NMH layout in Bagalagunte in ward no.14, T. Dasarahalli sub division, BBMP, Bangalore. |
| * Reference | : | BBMP/EE/DD/WO/123/2017-18 Dated: 21.06.2017 |
| * Sample ID | : | Precast Slab |
| * Grade of Concrete | : | $M_{20}$ |
| Techinical Reference | : | IS:516-1959 (RA- 2013), SP-24:1983. |
| Sample Received on | : | 05.07.2017 |
| Date of Testing | : | 10.07.2017 |

| Sl. No | Dia of Core D (mm) | Height of Core H (mm) | Core Wt (Kg) | Density of Core (kg / $m^3$) | H / D | Correction factor (Based on H/D) | Failure Load (kN) | Core Strength ( $N/mm^2$) | Correction Factor for the Dia. (Strength of the Core x 1.08) | Corrected Cylinder Compressive Strength ($N/mm^2$) | Equivalent Cube Compressive Strength ($N/mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 50.00 | 78.00 | 0.385 | 2513.83 | 1.56 | 0.952 | 31.56 | 16.07 | 17.36 | 18.23 | 22.78 |
| 2 | 50.00 | 82.00 | 0.405 | 2515.42 | 1.64 | 0.961 | 33.20 | 16.91 | 18.26 | 17.55 | 21.94 |
| 3 | 50.00 | 84.00 | 0.415 | 2516.16 | 1.68 | 0.965 | 33.90 | 17.27 | 18.65 | 18.00 | 22.50 |

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